

ABSTRACT OF THE DISCLOSURE

A storage virtualization environment is provided that includes a system for providing one or more virtual volumes. The system may include a host system and a set of storage devices, each of which includes physical block addresses that stores data. Further, the system includes a network switch system connecting the host system and the set of storage devices and is configured to define and manage a virtual volume associated with data distributed across the physical block addresses. The network switch system includes a first virtualization layer that maintains first tier objects including information reflecting a relationship between the physical block addresses and one or more logical partitions of virtual volume data. Moreover, the network switch system includes a second virtualization layer that maintains second tier objects including information reflecting a logical configuration of the virtual volume. The network switch system manages the virtual volume for the host system using the first and second tier objects.